



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/583,894

06/22/2006

Johan Rune

2380-1325

7394

23117

7590

06/30/2009

NIXON & VANDERHYE, PC
901 NORTH GLEBE ROAD, 11TH FLOOR
ARLINGTON, VA 22203

EXAMINER

DOAN, KIET M

ART UNIT

PAPER NUMBER

2617

MAIL DATE

DELIVERY MODE

06/30/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/583,894	Applicant(s) RUNE, JOHAN	
	Examiner KIET DOAN	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 May 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-51 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-51 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>04/13/09</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is response to Applicant's Remarks file on 05/04/2009
Claims 1-17, 19-43 and 45-51 are amended.

Response to Arguments

2. Applicant's arguments with respect to claims 1, 28 and 45 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 10, 26-28 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kekki et al. (US 2003/0099255 A1) in view of Wu (US 7,171,206 B2).

Consider **claims 1, 26-28 and 45**. Kekki teaches a method for providing diversity handover, DHO, related instructions to a first DHO tree node that is a part of or is planned to be a part of a DHO connection in a mobile telecommunication network, wherein the DHO functionality is distributed to one or a plurality of DHO nodes, including a Radio Network Controller (RNC) and its connected Node Bs, in the network, (Paragraph [0004]) the method comprising:

including in a first signaling message one or more transport layer addresses and one or more transport bearer reference parameters in order to direct one or more data flows between the RNC and a mobile station of the DHO connection (Abstract Paragraphs [0021-0022] [0041-0042] teach radio network element as read on RNC that communicated with mobile user equipment).

Kekki fails to explicitly teach

sending the first signaling message to the first DHO tree node, wherein the DHO functionality performed by the first DHO tree node comprises splitting of downlink flows and combining of uplink data flows.

In an analogous art, **Wu teaches** sending the first signaling message to the first DHO tree node, wherein the DHO functionality performed by the first DHO tree node comprises splitting of downlink flows and combining of uplink data flows (Col.5, lines 18-64, Fig.2 Illustrate the BSC 202 and 203 splitting the downlink and combine uplink wherein the switching node 201 arrange handoff to the corresponding base station (node B)).

Therefore, it would have been obvious at the time that the invention was made to modify Kekki with Wu system's such that sending messages to node including transport layer address to direct data flows of the DHO connection in order to keep track of location/position of mobile device when handing from one node to the other.

Consider **claims 10**. The combination of Kekki and Wu teach the method according to claim 1, further Kekki teaches wherein said first signaling message is sent from the RNC (Paragraphs [0035], Fig.2A show RNC 11 as sending message to UE 18).

7. Claims 2, 3, 7, 8, 9, 21, 23, 24, 29, 30, 34, 35, 36, 47, 49 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kekki et al. (US 2003/0099255 A1) in view of Wu (US 7,171,206 B2) and further view of Wang (US 5,539,922).

Consider **claims 2 and 29**. The combination of Kekki and Wu teach the method according to claim 1, **but is silent on** wherein the including-step comprises: replacing the transport layer address and transport bearer reference parameter of the RNC by transport layer address and transport bearer reference parameter of a DHO tree node that is hierarchically higher than the first DHO tree node in a regular signaling message sent to the first DHO tree node in order to direct a data flow between the first DHO tree node and the higher DHO tree node in a DHO tree node hierarchy.

In an analogous art, **Wang teaches**

wherein the including-step comprises: replacing the transport layer address and transport bearer reference parameter of the RNC by transport layer address and transport bearer reference parameter of a DHO tree node that is hierarchically higher than the first DHO tree node in a regular signaling message sent to the first DHO tree node in order to direct a data flow between the first DHO tree node and the higher DHO tree node in a DHO tree node hierarchy (Col.3, lines 39-60, Col.8, lines 1-5, 40-47, Fig.6 to Fig.8 show the decision of adding new layer address).

Therefore, it would have been obvious at the time that the invention was made to modify Kekki and Wu with Wang's system's such that replacing the transport layer address and transport bearer parameter of the RNC of the handover tree node in order to keep communication not interruption or disconnect when mobile handover one node to the other.

Consider **claims 3 and 30**. The combination of Kekki and Wu teach the method according to claim 1, further Wang teaches wherein the including-step comprises:

including one or more transport layer addresses and one or more transport bearer reference parameters of one or more DHO tree node(s) that are hierarchically lower than the first DHO tree node in a signaling message sent to the first DHO tree node in order to direct one or more data flows between the first DHO tree node and the one or more lower DHO tree node(s) in a DHO tree node hierarchy (Col.3, lines 39-60, Fig.6 to Fig.8 Illustrate and described).

Consider **claims 7 and 34**. The combination of Kekki and Wu teach the method according to claim 1, further, Wang teaches comprising:

including timing parameters in the first signaling message to be used in the uplink combining procedure in the DHO tree node receiving the first signaling message (Col.4, lines 5-15).

Consider **claims 8 and 35**. The combination of Kekki and Wu teach the method according to claim 1, further, Wang teaches comprising the step of: including a time indication in the first signaling message indicating when the DHO related instructions in the first signaling message are to be effectuated in the DHO tree node receiving the first signaling message (Col.7, lines 65-67, Col.8, lines 1-13, Fig.6 Illustrate and described).

Consider **claims 9 and 36**. The combination of Kekki and Wu teach the method according to claim 8, further Kekki teaches wherein said time indication is a connection frame number (CFN) pertaining to a Dedicated Channel Frame Protocol (DCH FP) in a UMTS Terrestrial Radio Access Network (UTRAN) (Paragraphs [0003], [0005-0007]).

Consider **claims 21 and 47**. The combination of Kekki and Wu and Molander teach the method according to claim 20, further Wang teaches wherein the source IP address is different from a source IP addresses used for packets received from a hierarchically higher DHO tree node and other hierarchically lower DHO tree nodes than the hierarchically lower DHO tree node from which the uplink packet was received (Col.8, lines 14-39).

Consider **claims 23 and 49**. The combination of Kekki and Wu teach the method according to claim 1, further, Wang teaches further comprising:

terminating the DHO functionality at the first DHO tree node for a macro diversity leg towards a hierarchically lower DHO tree node based on the absence of expected uplink data packets from a hierarchically lower DHO tree node (Col.18, lines 10-34).

Consider **claims 24 and 50**. The combination of Kekki and Wu teach the method of claim 1, further Wang teaches further comprising:

terminating the DHO functionality at the first DHO tree node for a macro diversity leg towards a hierarchically lower DHO tree node based on the reception of an indication that a hierarchically lower DHO tree node no longer uses the macro diversity leg (Col.16, lines 55, 61 teach foreign transceivers as read on tree node no longer uses the macro diversity leg).

8. Claims 11-15 and 37-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kekki et al. (US 2003/0099255 A1) in view of Wu (US 7,171,206 B2) and further view of Beming et al. (US 2003/0003919 A1).

Consider **claims 11 and 37**. The combination of Kekki and Wu teach the method according to claim 10, **but is silent on** wherein said first signaling message is a Node B Application Part (NBAP) message.

In an analogous art, **Beming teaches** wherein said first signaling message is a Node B Application Part (NBAP) message (Paragraph [0027]). It would have been obvious at the time that the invention was made to modify Kekki and Wu with Beming's system, such that first signaling message is a Node B Application Part (NBAP) message

in order to flexible controlling transport bear to from one base station to another base station.

Consider **claims 12 and 38**. The combination of Kekki and Wu teach the method according to claim 10, further Beming teaches wherein the step of sending said first signaling message is triggered by a second signaling message received from a second RNC (Paragraphs0 [069-0071], Fig.2A, show RNC 26/2 as read on second RNC]).

Consider **claims 13 and 39**. The combination of Kekki and Wu and Beming teach the method according to claim 12, further Beming teaches wherein the second signaling message is a Radio Network Subsystem Application Part (RNSAP) message (Paragraphs [0010-0011] [0027], [0032]).

Consider **claims 14 and 40**. The combination of Kekki and Wu and Beming teach the method according to claim 12, further Wang teaches wherein the second signaling message includes the same DHO related instructions and associated parameters as said the signaling message (Col.8, lines 40-50).

Consider **claims 15 and 41**. The combination of Kekki and Wu and Beming teach the method according to claim 14, further Wang teaches wherein said second signaling message further included a destination node transport layer address of the

Art Unit: 2617

first DHO tree node that is an intended recipient of the DHO related instructions (Fig.6 step 314 and Fig.7 step 348 as read on destination node transport layer address).

9. Claims 4, 6, 20, 22, 31, 33, 46 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kekki et al. (US 2003/0099255 A1) in view of Wu (US 7,171,206 B2) and further view of Molander et al. (US 2004/0203640 A1).

Consider **claims 4 and 31**. The combination of Kekki and Wu teach the method according to any of the claim 1, **but is silent on** wherein said transport layer addresses are IP addresses and said transport bearer reference parameters are UDP ports.

In an analogous art, **Molander teaches** wherein said transport layer addresses are IP addresses and said transport bearer reference parameters are User Datagram Protocol (UDP) ports (Paragraphs [0029-0030]).

Therefore, it would have been obvious at the time that the invention was made to modify Kekki and Wu with Molander's system teaches wherein said transport layer addresses are IP addresses and said transport bearer reference parameters are UDP ports in order to improve the connection without interruption.

Consider **claims 6 and 33**. The combination of Kekki and Wu teach the method according to any of claim 1, further Molander teaches comprising:

including in the first signaling message Quality of Service (QoS) indications for the one or more data flow(s) to be directed (Paragraph [0012]).

Consider **claims 20 and 46**. The combination of Kekki and Wu and teach the method according to claim 19, further Molander teaches wherein the implicit information comprises a source IP addresses and a source User Datagram Protocol (UDP) port retrieved from an IP header and a UDP header of a received uplink packet (Paragraphs [0023-025]).

Consider **claim 22 and 48**. The combination of Kekki and Wu teach the method according to claim 20, further Molander teaches further comprising:

using the retrieved source IP address and UDP port at the first User Datagram Protocol (DHO) tree node as destination IP address and destination UDP port for the split downlink data flow for the macro diversity leg towards the hierarchically lower DHO tree node (Paragraphs [0024-0025]).

10. Claims 5, 16, 17, 32, 42 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kekki et al. (US 2003/0099255 A1) in view of Wu (US 7,171,206 B2) and further view of Willars et al. (US 2001/0053145 A1).

Consider **claims 5 and 32**. The combination of Kekki and Wu teach the method according to claim 1, **but is silent on** wherein said transport layer addresses are ATM addresses and said transport bearer reference parameters are Server User Generated Reference (SUGR) parameters.

In an analogous art, **Willars teaches** wherein said transport layer addresses are ATM addresses and said transport bearer reference parameters are Server User Generated Reference (SUGR) parameters (Paragraphs [0066], [0090]).

Therefore, it would have been obvious at the time that the invention was made to modify Kekki and Wu with Willars's system such that wherein said transport layer addresses are ATM addresses and said transport bearer reference parameters are SUGR parameters in order to provide connectionless using feature of Server User Generated Reference (SUGR) parameters.

Consider **claims 16 and 42**. The combination of Beming and Wang teach the method according to claim 15, further Willars teaches wherein said destination node transport layer address is an IP address (Paragraph [0031], [0042]).

Consider **claims 17 and 43**. The combination of Beming and Wang teach the method according to claim 15, further Willars teaches wherein said destination node transport layer address is an ATM address (Paragraphs [0031], [0042]).

Consider **claims 18 and 44**. The combination of Kekki and Wu teach the method according to claim 1, further Willars teaches wherein the mobile telecommunication network is a UMTS network (Paragraphs [0048]).

11. Claims 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kekki et al. (US 2003/0099255 A1) in view of Wu (US 7,171,206 B2) and further view of Gopalakrishna et al. (US 2002/0183053 A1).

Consider **claims 19**. The combination of Kekki and Wu teach the method according to claim 1, **but is silent on** further comprising:

using implicit information at the first DHO tree node in data received from a hierarchically lower DHO tree node to trigger the initiation of DHO functionality for a macro diversity leg towards the hierarchically lower DHO tree node.

In an analogous art, **Gopalakrishna teaches** wherein the method comprises the further step of: using implicit information at the first DHO tree node in data received from a hierarchically lower DHO tree node to trigger an initiation of DHO functionality for a macro diversity leg towards the hierarchically lower DHO tree node, wherein said DHO functionality comprises splitting and combining of data flows (Paragraph [0037]).

Therefore, it would have been obvious at the time that the invention was made to modify Beming and Wang with Gopalakrishna's system's such that wherein said DHO functionality comprises splitting and combining of data flows in order to keep the communication with out interruption.

12. Claims 25 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kekki et al. (US 2003/0099255 A1) in view of Wu (US 7,171,206 B2) in view of Wang (US 5,539,922) and further view of Gerry et al. (US 2004/0029615 A1).

Consider **claims 25 and 51**. The combination of Kekki and Wu and Wang teach

the method of claim 24, **but is silent on** wherein said indication is a Destination Unreachable Internet Control Message Protocol (ICMP) message.

In an analogous art, **Gerry teaches** wherein said indication is a Destination Unreachable Internet Control Message Protocol, ICMP, message (Paragraph [0033], Fig.3 Illustrate and described).

Therefore, it would have been obvious at the time that the invention was made to modify Kekki and Wu and Wang with Gerry's system's such that wherein said indication is a Destination Unreachable Internet Control Message Protocol (ICMP) message in order to improve the controlling and keeping communication without interruptions.

Conclusion

1. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 2617

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KIET DOAN whose telephone number is (571)272-7863. The examiner can normally be reached on 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on 571-272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kiet Doan/
Examiner, Art Unit 2617

/Charles N. Appiah/
Supervisory Patent Examiner, Art Unit 2617